EMERGENCY ACTION PLAN

SHARP POND

Joel and Erica Simmerman
5560 Bridlepath Lane
Florence, MT 59833

October 29, 2009
12/21/10

If the Sharp Pond is failing or failure seems imminent, call:

Ravalli County Sheriff..... 911

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I. INTRODUCTION

A. Purpose

The purpose of this emergency action plan (EAP) is primarily to safeguard lives and secondarily to reduce property damage to the citizens of Ravalli County living near the town of Florence, and along Eight Mile Creek, in the event of flooding caused by a failure of Sharp Pond.

B. Description of Dam

Sharp Pond is in Ravalli County, in Section 8, Township 10 North (T10N), Range 19 West (R19W), and located off Eight Mile Creek, a tributary of the Bitterroot River. It is owned by Joel and Erica Simmerman, 5560 Bridlepath Lane, Florence, MT 59833 and is used for irrigation and recreation purposes. Technical data pertaining to Sharp Pond and its structures are shown in Appendix A.

C. Access to Dam

Sharp Pond is located on Bridlepath Lane about 1/4 mile south of Eight Mile Creek Road, a county road, about five miles east of Florence. The nearest telephone is at the home of Joel and Erica Simmerman (273-6631) at the head of Sharp Pond on Bridlepath Lane.

D. Hazard Area

The evacuation area extends along Eight Mile Creek to a point about one mile downstream of Sharp Pond, as shown in Appendix B. Hazards include the possible inundation or isolation of occupied dwellings. Inundation and evacuation maps are in Appendix B.

E. Responsibility and Authority

Pursuant to the Dam Safety Act, Chapter 15 of Title 85, MCA, the dam owner is responsible for production, coordination, maintenance, and implementation of this emergency action plan. The extent of owner implementation was defined through coordination of this plan with the Ravalli County Sheriff and Office of Emergency Management (OEM) coordinator.

F. Periodic Review/Update

The owner will review/update this EAP annually. Review/update by a qualified professional engineer will be accomplished as required by the dam's operating permit, but no less than every five years.

G. Approval

By my signature, I acknowledge that I, or my representative, have reviewed this plan and agree to the tasks and responsibilities assigned herein for my department and/or agency.

Joel A. Simmerman Erica Simmerman 11/3/09
Signatures, Joel & Erica Simmerman, Owners — Date
SHARP POND

Chris Hoffman, Sheriff 10-30-09
Signature — Date
RAVALLI COUNTY SHERIFF'S ~~DEPARTMENT~~ OFFICE

Ron Nicholas 10-30-09
Signature — Date
RAVALLI COUNTY OFFICE OF EMERGENCY MANAGEMENT

II. NOTIFICATION PROCEDURES

A. Imminent or Actual Failure

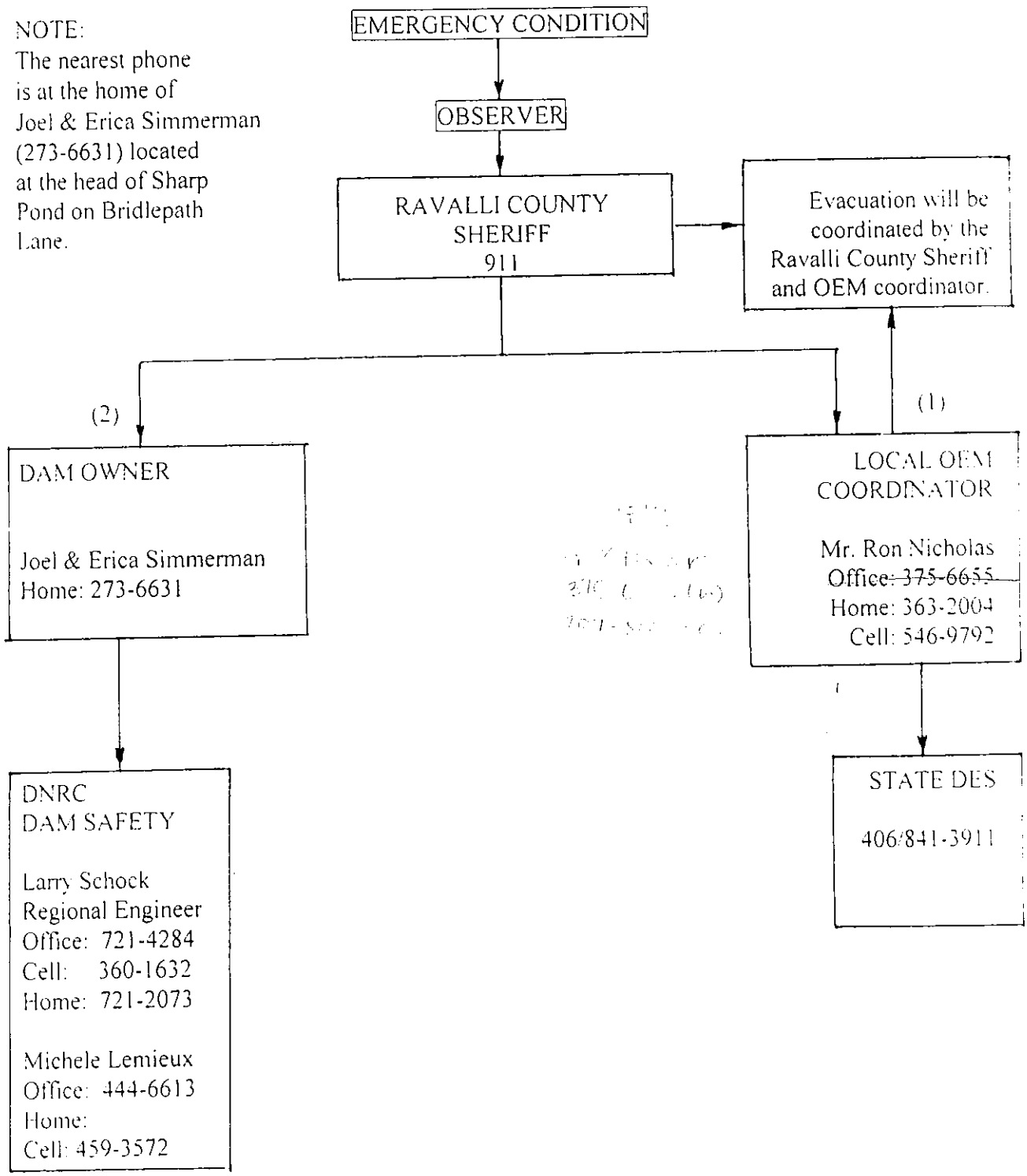
IF SHARP POND IS FAILING, TWO THINGS MUST BE DONE IMMEDIATELY:

(1) Residents in the hazard area downstream from the dam must be warned according to the County warning plan, and initiated as shown in Figure 1, and

(2) any steps that might save the dam or reduce damage to the dam or hazard area downstream should be taken. (Refer to the map in Appendix B to determine the areas that are likely to be inundated if the dam fails).

FIGURE 1

SHARP POND
ACTUAL OR IMMINENT FAILURE
"NOTIFICATION FLOWCHART"



As dam owner, it is your responsibility to:

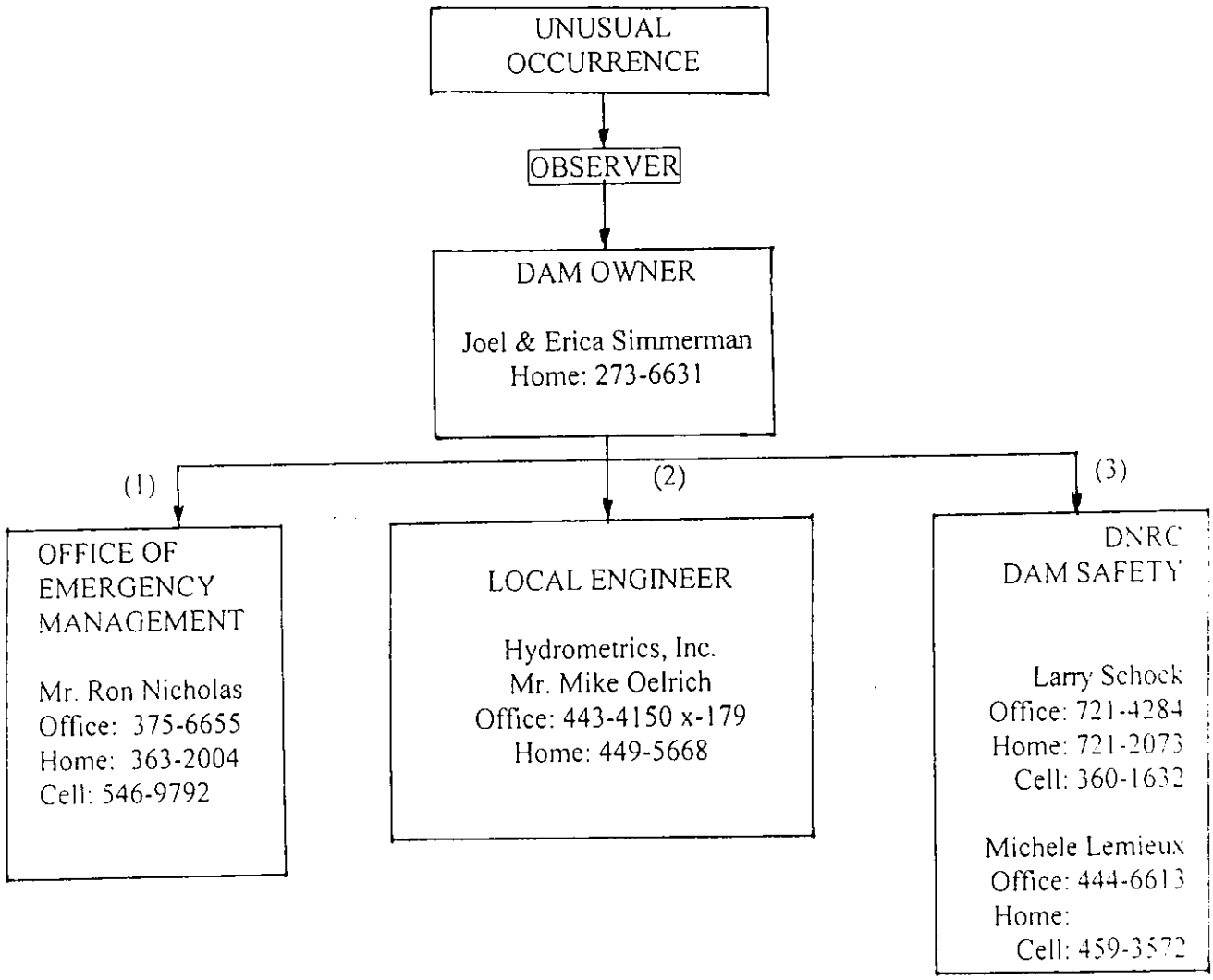
1. Call the Sheriff's Dispatch Center (911) and Office of Emergency Management (375-6655), if they have not already been notified. Be sure to say, "This is an emergency." They will call other authorities and the media and begin the warning plan.
2. Warn anyone in immediate danger to evacuate to safety. This includes someone on the dam, directly below the dam, or boating on the reservoir, or downstream evacuees, if so directed by the sheriff.
3. Contact the Office of Emergency Management staff at least once every hour. They may request your assistance in evacuating residents.
4. If all means of communication are lost:
   a. Try to find out why
   b. Get someone else to try to reestablish communications. If these means fail, take care of immediate problems and send someone to get to another radio or telephone that works.

B. Potentially Hazardous Situation

A potentially hazardous situation is an event or condition not normally encountered in the routine operation of the dam and reservoir. Among the unusual occurrences that may affect the dam are dam embankment problems (see section B.2.), failure of the outlet works, heavy precipitation or rapid spring snow melt, landslides, earthquakes, erosion, theft, vandalism, acts of sabotage, and serious accidents. These occurrences may endanger the dam, the public, or the downstream valley and may necessitate a temporary or permanent revision of the dam's operating procedures. Help in these situations can be obtained by notifying those people shown in Figure 2.

FIGURE 2

SHARP POND
POTENTIALLY HAZARDOUS SITUATION
"NOTIFICATION FLOWCHART"



1. If the dam owner discovers an unusual condition of the dam embankment that could threaten the structure:

   a. Have a qualified engineer inspect the dam as soon as possible to determine whether emergency action is necessary.

   b. Notify the County Office of Emergency Management Coordinator (375-6655) of the potential problem.

   c. Contact the Dam Safety Program (444-9362) of the Department of Natural Resources and Conservation (DNRC).

2. Among the conditions the dam owner should watch for are:
    a. Overtopping of the dam by flood waters
    b. Loss of material from the dam crest due to storm wave erosion
    c. Slides on either the upstream or downstream slope of the embankment as evidenced by
        1. Sloughing
        2. Cracking
        3. Bulging
        4. Scarping
    d. Erosional flows through, beneath, or around the embankment as evidenced by
        1. Excessive seepage
        2. Discoloration of the seepage
        3. Boils on the downstream side
        4. Sinkholes
        5. Changes in the flow from drains
    e. Failure of outlet due to clogging or erosion
    f. Movement of the dam on its foundation as evidenced by
        1. Misalignment
        2. Settlement
        3. Cracking

3. Before calling either an engineer or DNRC to report a problem, the dam owner shall use the form in Appendix D to ensure sufficient information is provided for the engineer to analyze the problems. After talking to the engineer, it may be helpful to document the condition of the dam by making a sketch on the form in Appendix D, showing the extent of the problem. Revise the sketch periodically if the problem develops further. Section III includes further guidelines for courses of action to take mitigate the effect of many problems.

C. Posting of the Notification Flowchart and Distribution of the EAP.

The Notification Flowchart is posted at the dam and a copy of the EAP is in the pumphouse. The Ravalli County Sheriff's Office and the Ravalli County OEM Coordinator have copies of the plan.

III. MITIGATION ACTIONS

Besides normal monitoring of the dam's condition, which is done at least monthly, the owner will provide continuous monitoring and inspection during and after extreme events such as storms and earthquakes. Information on the magnitude of an earthquake or storm can be obtained from the DNRC Dam Safety Program ~~(444-9362)~~. Actions are suggested below to mitigate problems that may develop, but those actions should never be continued at the risk of injury or at the expense of lessening efforts related to evacuation. Monitoring should identify any of the following potential problems.

A. Potential Problems and Immediate Response Actions

1. OVERTOPPING BY FLOOD WATERS

a. Place sandbags along the crest to increase freeboard and force more water through the spillway and outlet.
b. Provide erosion-resistant protection to the downstream slope by placing plastic sheets or other materials over eroding areas.
c. Divert flood waters around the reservoir basin, if possible.
d. Create additional spillway capacity by making a controlled breach in a low embankment or dike section where the foundation materials are erosion-resistant.

2. LOSS OF FREEBOARD OR DAM CROSS SECTION DUE TO STORM WAVE EROSION

a. Place additional riprap or sandbags in damaged areas to prevent further embankment erosion.

3. SLIDES IN THE UPSTREAM OR DOWNSTREAM SLOPE OF THE EMBANKMENT

a. Create additional spillway capacity by making a controlled breach in a low embankment or dike section where the foundation materials are erosion-resistant to lower water level.
b. Stabilize slides on the downstream slope by
    1. weighting the toe area with additional soil, rock, or gravel, and then
    2. restoring lost freeboard by placing sandbags at the crest.

4. EROSIONAL FLOWS THROUGH THE EMBANKMENT, FOUNDATION, OR ABUTMENTS

a. Plug the flow with whatever material is available (hay bales, bentonite, or plastic sheeting if the entrance to the leak is in the reservoir basin).
b. Create additional spillway capacity by making a controlled breach in a low embankment or dike section where the foundation materials are erosion-resistant to lower water level.
c. Place a protective sand-and-gravel filter or boil ring over the exit area to hold materials in place.

5. FAILURE OF OUTLET

Piping around outlet will result in a controlled breach. No mitigating measures are available.

6. MASS MOVEMENT OF THE DAM ON ITS FOUNDATION (SPREADING OR MASS SLIDING FAILURE)

Create additional spillway capacity by making a controlled breach in a low embankment or dike section where the foundation materials are erosion-resistant to lower water level.

7. EXCESSIVE SEEPAGE AND HIGH LEVEL SATURATION OF THE EMBANKMENT

a. Create additional spillway capacity by making a controlled breach in a low embankment or dike section where the foundation materials are erosion-resistant to lower water level.
b. Continue frequent monitoring for signs of slides, cracking or concentrated seepage.

8. EXCESSIVE SETTLEMENT OF THE EMBANKMENT

a. Create additional spillway capacity by making a controlled breach in a low embankment or dike section where the foundation materials are erosion-resistant to lower water level.
b. If necessary, restore freeboard, preferably by placing sandbags.

B. Emergency Supplies and Resources

A reclaimed gravel pit is located 500 feet west of the Sharp Pond and north of Eight Mile Creek. This pit is on property owned by the Sharp's and can be used as a source of pit-run gravel.

A clay pit is located on the south side of Eight Mile Creek directly across from the gravel pit. This pit is located on property owned by Bob Bielby and has been available as a source of clay recently. This property is currently being developed into residential lots and may not be available in the future.

C. Local Contractors and Engineers

Local Contractors:

Bill Walton	273-2817
Lyle Wilkinson	273-7807
Jim Campbell	273-0747

Engineer:

Hydrometrics, Inc.
Mr. Mike Oelrich
443-4150 x-179 (work)
449-5668 (home)

APPENDICES

APPENDIX A Technical Data

APPENDIX A

Technical Data For Sharp Pond

Maximum Reservoir Capacity to the Crest of the Dam . . . . . 105 acre feet

Normal Reservoir Capacity Measured to the Emergency Spillway Crest . . . 80 acre feet

Normal Water Depth Measured from Bottom of Reservoir to the Crest of Outlet 19 feet

Dam Height Measured From Bottom of Reservoir to the Crest of the Dam . . . . 22 feet

Typical Dam Crest Width . . . . . 16 feet

Maximum Dam Width at Base . . . . . 160 feet

Length of Dam Crest (horse shoe shaped dike) . . . . . 2300 feet

Outlet Capacity . . . . . 12 cubic feet per second

Spillway Capacity . . . . . 350 cubic feet per second

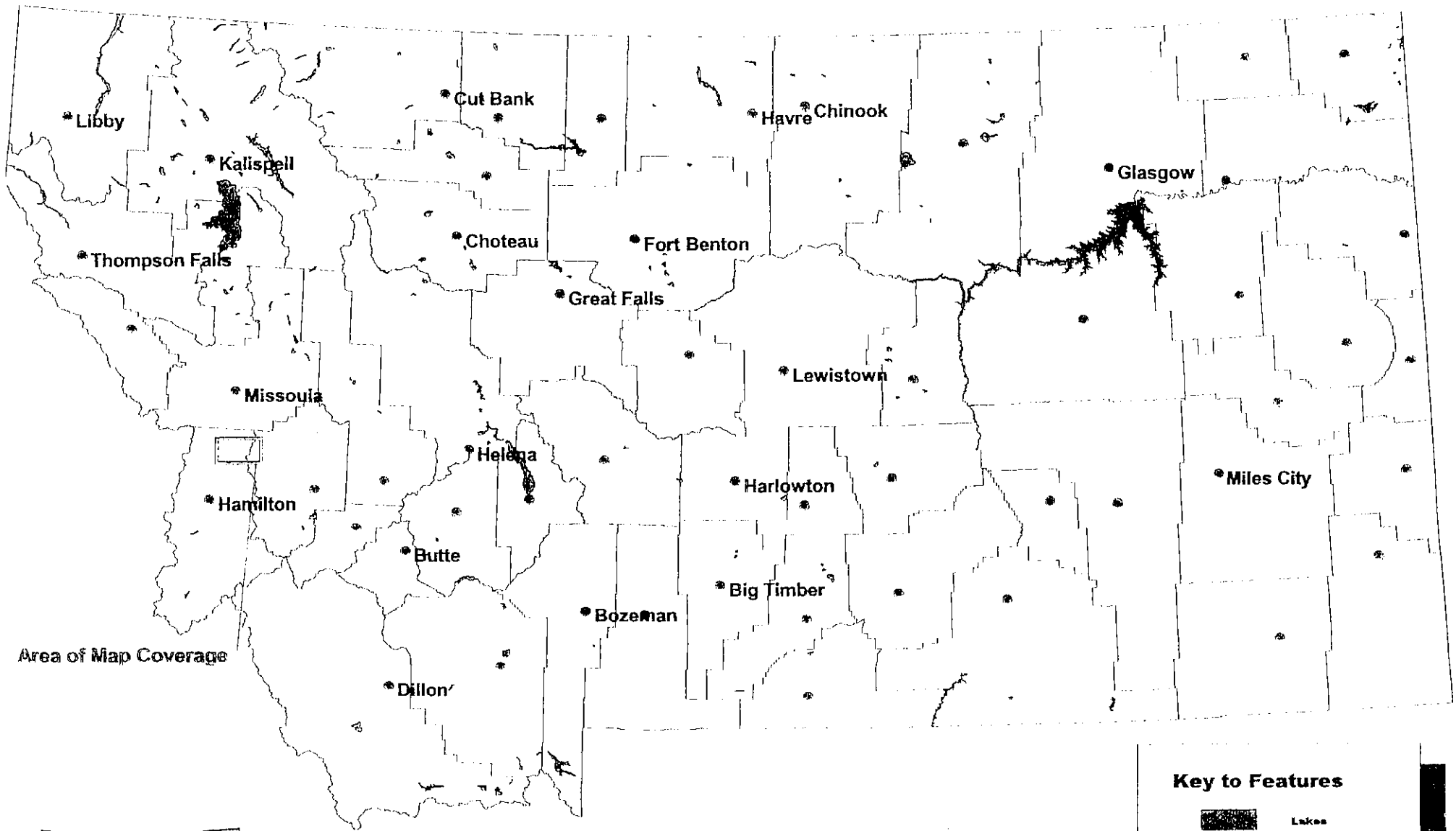
Date Constructed . . . . . estimate early 1960's

Typical Slope of Upstream Face of Dam (Horizontal to Vertical) 4:1

Typical Slope of Downstream Face of Dam (Horizontal to Vertical) 2:1

APPENDIX B Inundation and Evacuation Maps

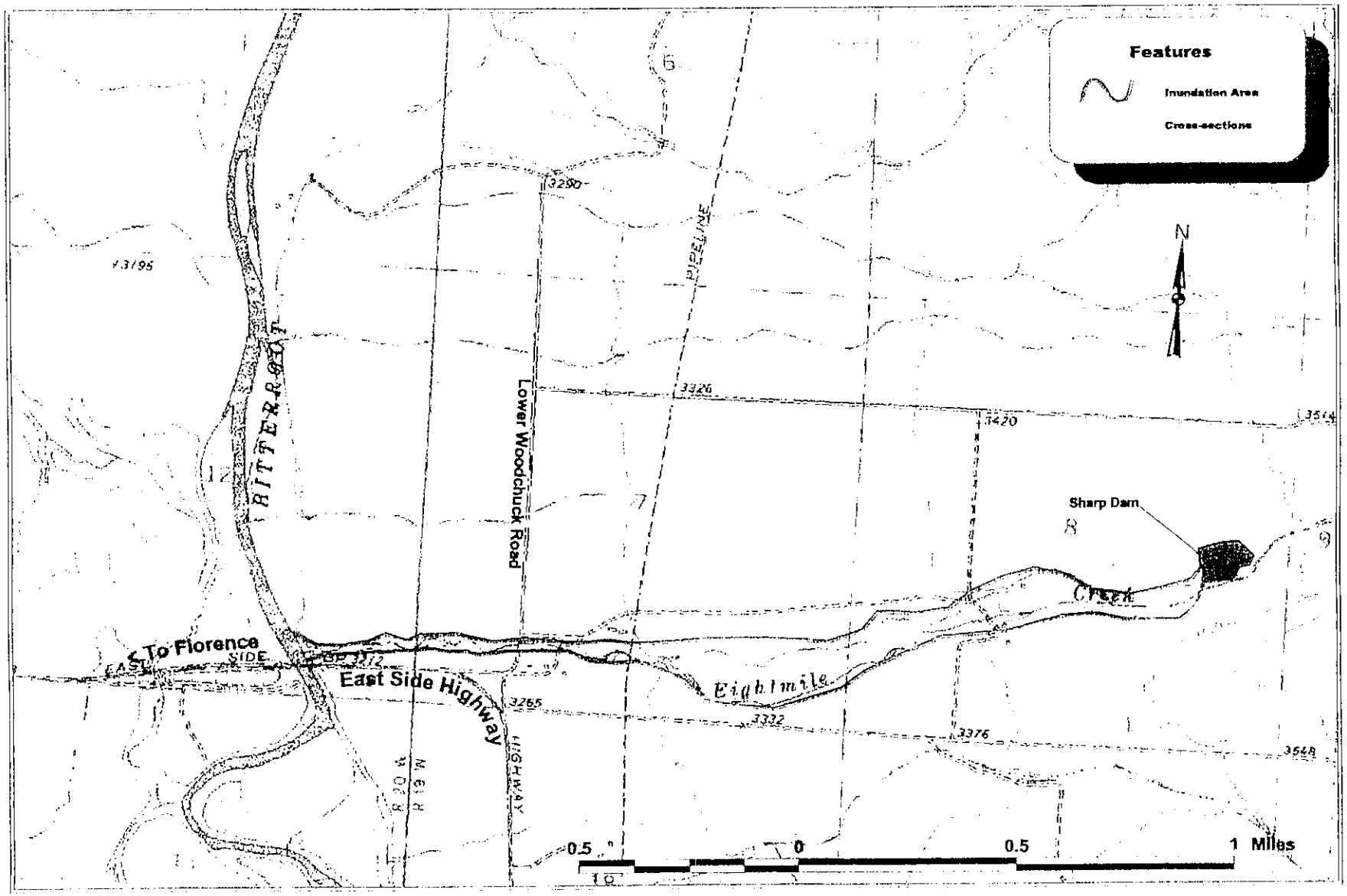
Sharp Dam Overview Map



MONTANA DNRC

Kevin Premore (October 2001)

Sharp Dam Inundation Map



APPENDIX C Telephone Directory

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Appendix C
TELEPHONE DIRECTORY

A. Priority One

1. SHERIFF Ravalli County 911

2. OFFICE OF EMERGENCY MANAGEMENT

Ravalli County ..... Office: 375-6655
Mr. Ron Nicholas ..... Home: 363-2004
Cell: 546-9792

Montana Disaster and Emergency Services Division (Helena) 841-3911

3. EVACUEES (in upstream-to-downstream sequence)

Guy Sharp	273-2898	
Alan Gelman	273-0745	
Mark Hebert	273-6198	370-6198 cell
Curt Anderson	273-9070	
Kelly Mikesell	273-2933	
Bart Pedersen	273-0285	
Robert Taylor	544-4679	

B. Priority Two

4. LOCAL ENGINEERS

Hydrometrics, Inc. ..... Office: 443-4150 x-179
Mr. Mike Oelrich ..... Home: 449-5668

5. MONTANA DEPT. OF NATURAL RESOURCES AND CONSERVATION

Dam Safety Program Engineers
Ms. Michele Lemieux, Soils and Embankments ..... Office: 444-6613
Cell: 459-3572

Water Operations Bureau ..... Office: 444-6816
Mr. Laurence Siroky, Bureau Chief ..... Home: 442-2806
Cell: 431-7475

Missoula Regional Office ..... Office: 721-4284
Mr. Larry Schock, Regional Engineer ..... Home: 721-2073
Cell: 360-1632

6. NATIONAL WEATHER SERVICE

Helena 449-5204

Great Falls 453-2081

Billings 657-6988

7. SHARP POND

Owners: Joel & Erica Simmerman 273-6631

8. BUREAU OF LAND MANAGEMENT 657-6561

9. MONTANA DEPARTMENT OF STATE LANDS 444-2074

10. U.S. FOREST SERVICE
REGIONAL ENGINEERING OFFICE 329-3176

App. C

APPENDIX D Dam Incident Report Form

APPENDIX D
DAM INCIDENT REPORT FORM

DATE_____ TIME_____

NAME OF DAM Sharp Pond

STREAM NAME Eight Mile Creek

LOCATION S. 8, T10N, R19W

COUNTY Ravalli

OBSERVER _____

OBSERVER TELEPHONE_____

NATURE OF PROBLEM_____

_____

_____

_____

LOCATION OF PROBLEM AREA (Looking Downstream)_____

_____

EXTENT OF PROBLEM AREA _____

_____

FLOW QUANTITY AND COLOR _____

_____

WATER LEVEL IN RESERVOIR _____

IS SITUATION WORSENING? _____

EMERGENCY STATUS _____

CURRENT WEATHER CONDITIONS _____

ADDITIONAL COMMENTS _____

APPENDIX E Plan Distribution List

APPENDIX E
Emergency Action Plan Distribution List

PLAN HOLDER	NUMBER OF COPIES
Pond Owners, Joel & Erica Simmerman	2
Ravalli County Sheriff	1
Ravalli County OEM Coordinator	1
DNRC Dam Safety Program	1
9-1-1	1
Guy & Teri Sharp	1
National Weather Service - Great Falls	1
MT State DES Office - Helena	1